Wireless Vision Engineering Tracking

THE QUEEN'S AWARDS FOR ENTERPRISE: 2014

User Manual

Power supply module

iSCANPS

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Table of contents

1 Important notes on the Operating Instructions 2
1.1 Safety information 2
1.2 Notes on the Operating Instructions 3
1.3 General notes of caution 4
2 Product information 6
2.1 Manufacturer 6
2.2 Explosion protection 6
2.3 Technical data 7
2.4 Components 9
2.5 Serial numbers 9
2.6 Application 9
3 Introduction to operation of the power supply 10
3.1 Power supply design 10
3.2 Pin assignment in the Ex e connection box 11
3.3 Pin assignment in the Ex i connection box 12
4 Attachments 14
6 Contact 18

1 Important notes on the Operating Instructions

1.1 Safety information

Warnings are highlighted by a special symbol and a different font colour:

Danger

Non-compliance may result in life-threatening situations.
This warning must be heeded.

Warning

This type of warning concerns dangerous situations that may result in minor injuries.

Info

Important and helpful notes and information.

1.2 Notes on the Operating Instructions

Before starting up the equipment please read the Manual thoroughly.

The Operating Instructions contain important information on functionality as well as safety rules. If these are not heeded, normal operations within hazardous areas cannot be guaranteed.

The notes contained in this manual are important for starting up and operating the product.

These instructions may be updated at any time. Extronics Limited reserves the right to make changes to this document.

Before they use the product, users must ensure that they have the most up-to-date version of the operating instructions.
To make sure this is the case, please check Extronics' website, www.extronics.com, or contact one of the company's staff.

The drawings contained in these operating instructions are for illustration purposes only and may differ somewhat from the actual design.

No changes may be made to the device that were not intended or approved by Extronics Limited.

If the handheld scanner is not used properly, the operating permission for hazardous areas may lapse for the device in question.

Non-adherence to the instructions will void any warranty.

1.3 General notes of caution

Caution / Notes

- The devices may only be operated when fully assembled.
- In hazardous areas, the devices must not be wiped or cleaned with a dry cloth.
- The device must be switched off immediately if it is likely that it can no longer be operated safely as a result of damaging impact or general peculiarities (such as ingress of water or other fluids, temperatures outside of the specified range, etc.).
- General statutory requirements or health and safety rules and accident prevention guidelines and environmental laws must be adhered to (e.g. the German Occupational Health and Safety regulation).
- Users must not open the device.
- Users must not make any changes to the device. Components may not be exchanged or replaced. If non-specified components are used, explosion protection is no longer guaranteed.
- Ensure safe handling with firm footing and sufficient room for movement.
- If the enclosure is in any way damaged the device must be removed from the hazardous area immediately.
- In accordance with IEC 60079-19 and IEC 60079-17, operators of electrical installation in hazardous areas are obliged to have them serviced by qualified electricians.
- Do not insert any sharp objects into the enclosure or any other openings of the handheld barcode scanner. Any openings at the device may not be covered or blocked.
- The device and any accessories must be properly disposed of, i.e. as legally specified, for example by a certified company.

Notes on installation

- Electrical plants are subject to certain regulations concerning installation and operation (e.g. RL 99/92/EG, RL 94/9EG, or the national rules such as IEC 60 079-14 and VDE 0100).
- In the hazardous area it is the operator's responsibility to carry out any repair and maintenance in compliance with applicable rules.

Caution on laser devices

Devices fitted with laser fall under standards US 21 CFR 1040.10 and EN 60825-1. The laser's classification is stated on a plate affixed to the device. Class 1 lasers are deemed inherently safe during normal use, but users must not look directly into the light source. The following declaration is required by American and international laws:
Usage of control elements, adaptations or the use of procedures that differ from these instructions may result in a dangerous exposure to laser beams.
Class 2 lasers use a visible low-voltage LED. As with any source of bright light, such as the sun, the user should avoid looking directly into the light. Brief exposure to a class 2 laser is deemed not dangerous.

Maintenance

Provided the device is operated and assembled according to instructions and the ambient requirements are being met continuous maintenance is not necessary.

Servicing

Operators of electric equipment in hazardous areas are obliged to have them serviced by qualified electricians (IEC 60079-19 and IEC 60079-17).

Repairs

Repairs may only be carried out by the manufacturer or by persons trained and commissioned for this purpose by the manufacturer.

The device is closed ex-factory. It may only be opened in the factory by specifically trained personnel.

Software installation

For instructions on how to install the software at the PC please refer to the manual issued by SICK.

Operation

Before operating the device you must ensure that all necessary components are available.

2 Product information

2.1 Manufacturer

Extronics Limited
1 Dalton Way
Midpoint 18
Middlewich
CW10 0HU
UK

Device: iSCANPS

2.2 Explosion protection

- II 2G Ex eb qb [ib] IIC T4
- II 2D Ex tb IIIC T135°C
- II 2G Ex e q [ib] IIC T4 Gb
- II 2D Ex t IIIC T135°C Db

Protection rating: IP65
Temperature range: -25°C ≤ Ta ≤ +60°C

2.3 Technical data

Supply circuit

Type	iSCANPS1 and iSCANPS2 - DC 24 V with RS232 or USB interface		
Non-intrinsically safe supply circuit	• Rated voltage	U_N	+24 V DC ± 25 %
Intrinsically safe supply circuit	• Maximum output voltage	U_o	4,9 V DC
	• Maximum output current	I_o	440 mA
	• Maximum output power	P_o	1,20 W
	• Maximum external inductance	L_o	0,1 mH
	• Maximum external capacitance	C_o	113 µF

Type	iSCANPS3 and iSCANPS4 - AC 230 V with RS232 or USB interface		
Non-intrinsically safe supply circuit	• Rated voltage	U_N	90 V ... 253 V AC, 50 - 60 Hz
Intrinsically safe supply circuit	• Maximum output voltage	U_o	4,9 V DC
	• Maximum output current	I_o	440 mA
	• Maximum output power	P_o	1,20 W
	• Maximum external inductance	L_o	0,1 mH
	• Maximum external capacitance	C_o	113 µF

Data circuits

Non-intrinsically safe data circuits	iSCANPS1 and iSCANPS3		
	RS232	X5 (TxD); X4 (GND)	RS232 ± 12V / 4mA
	RS422	X7 (T+); X8 (T-); X6 (PE)	RS422 ± 12V / -7V / 4mA
	iSCANPS2 and iSCANPS4		
	USB	X5 (Schrim); X4 (GND); X6 (NV); X7 (D+ 2MA); X8 (D- 2MA)	USB +5V / 68 mA
Intrinsically safe data circuits	iSCANPS1 and iSCANPS3		
	RS232	X9 (RxD); X10 (GND)	U_i = 5,5V DC
	iSCANPS2 and iSCANPS4		
	USB	X9 (D+ 2SL); X10 (D- 2SL); X11 (GND/PE)	$U_{O\ D+/\ D-}$ = 4,9 V $I_{O\ D+/\ D-}$ = 20 mA per data cable $P_{O\ D+/\ D-}$ = 24 mW per data cable linear characteristic
Dimensions	140 mm x 250 mm x 56 mm (W x H x D)		
Weight	3,1 kg (without connection cables)		
Ambient temperature	-25°C to +60°C		

2.4 Components

iSCANPS1	DC 24 V with RS232 interface
iSCANPS2	DC 24 V with USB interface
iSCANPS3	AC 230 V with RS232 interface
iSCANPS4	AC 230 V with USB interface

2.5 Serial numbers

Serial key:	year of manufacture	serial number
	2 numbers	4 numbers
Example:	13	0001

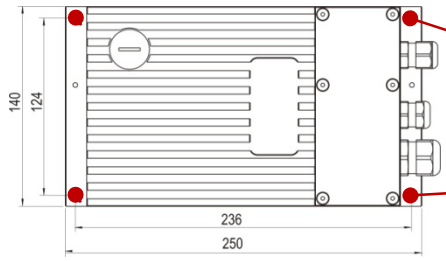
2.6 Application

The purpose of the power supply is the intrinsically safe supply of power to other devices.

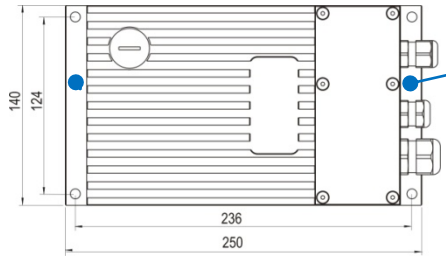
The iSCANPS can supply power in hazardous area zones 1 and 21.

3 Introduction to operation of the power supply

3.1 Power supply design

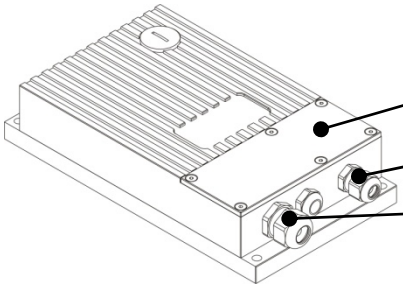


Use the four fixing holes at the corner of the base plate (see diagram) to mount the power supply onto a firm surface.
The holes have a diameter of 7mm each.



The equipotential bonding connection (M 5 x 10) is located at the front and back of the power supply.

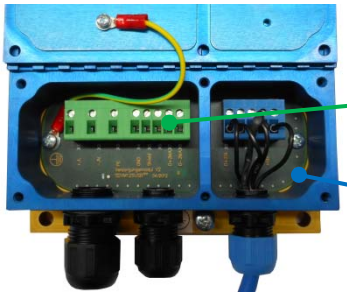
Equipotential bonding is required for the entire installation of the intrinsically safe circuits.



Terminal connection box underneath cover.

Cable gland M16 x 1.5 for appliance.

Cable gland M20 x 1.5 for voltage supply.



Ex e connection box for connection of voltage supply.

Ex i connection box for connection of appliances.

3.2 Pin assignment in the Ex e connection box

Pin assignment of the Ex e box with RS232 interface

Terminal definition	Terminal number	Description	Type number
+ / - L	X1	L = AC 100 V bis 250 V + = DC24 V	iSCANPS3 iSCANPS1
- / N	X2	N neutral conductor - Minus	iSCANPS3 iSCANPS1
PE	X3	PE	
GND	X4	RS232	
TxD	X5	RS232	
Shield	X6	RS232/RS422	
T+	X7	RS422	
T-	X8	RS422	

Pin assignment of the Ex e box with USB interface

Terminal definition	Terminal number	Description	Type number
+ / - L	X1	L = AC 100 V bis 250 V + = DC24 V	iSCANPS4 iSCANPS2
- / N	X2	N neutral conductor - Minus	iSCANPS4 iSCANPS2
PE	X3	PE	
GND	X4	USB	
Shield	X5	USB	
NC	X6		
D+	X7	USB	
D-	X8	USB	

3.3 Pin assignment in the Ex i connection box

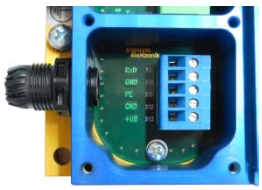
The terminal assignment is located underneath the removable cover at the front of the power supply.

Warning: Do not open in hazardous areas.

Before operating the device in a hazardous area you must ensure that the enclosure is fully closed and all screws have been tightened.

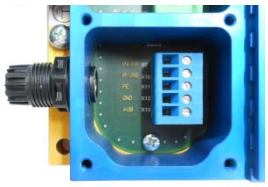
Any changes to the wiring may only be carried out by trained staff.

Pin assignment of the Ex i box with RS232 interface



iSCANPS1 and iSCANPS3			
Pre-assembled connection coupling		Terminal compartment	
Pin	Wire	Definition	Number
3	3	RxD	X9
		GND	X10
		PE	X11
2	2	GND	X12
1	1	+UB	X13

Pin assignment of the Ex i box with USB interface



iSCANPS2 and iSCANPS4			
Pre-assembled connection coupling		Terminal compartment	
Pin	Wire	Definition	Number
3	3	D+	X9
2	4	D-	X10
		PE	X11
4	2	GND	X12
1	1	+UB	X13

4 Attachments

iSCANPS certificates

6 Contact

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